

Environmental Assessment Checklist

Project Name: Hoover Creek

Proposed Implementation Date: October 2022

Proponent: Anaconda Unit, Southwest Land Office, Montana DNRC

County: Powell

Type and Purpose of Action

Description of Proposed Action:

The Department of Natural Resources and Conservation (DNRC), Southwestern Land Office, Anaconda Unit, proposes to harvest timber from State owned Common School Trust Lands in parts of three (3) sections, Northeast of Drummond, MT. The proposed project area encompasses 1,680 acres within Sections 14 (Hoover 14), 16 (Hoover 16), and 22 (Hoover 22), T11N, R11W located in Powell County. The proposal would target approximately 1,186 acres for harvest. Proposal maps and a vicinity map indicating the general location of the proposed project area are shown in Attachments A-1 through A-4.

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	Sections 14, 16 and 22; T11N, R11W	1,680	1,186
Public Buildings			
MSU 2 nd Grant			
MSU Morrill			
Eastern College-MSU/Western College-U of M			
Montana Tech			
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			

Objectives of the project include:

- Provide continuing income for the Trust beneficiaries in a manner consistent with sustained yield management principles.
- Promote long-term production of timber for generating revenue to the trust beneficiaries.

- Maintain DNRC ownership in an ecological condition which is sustainable and provides for a wide variety of resources to generate future income.
- Promote stand health by returning the stands to stocking levels and fuel loads closer to historical levels and creating healthier stands.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	626
Shelterwood	49
Selection	
Old Growth Maintenance/Restoration	252
Commercial Thinning	100
Salvage	
Overstory Removal	159
Total Treatment Acres	1,186
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Site preparation/scarification	
Planting	
Proposed Road Activities	# Miles
New permanent road construction	5.3
New temporary road construction	2.5
Road maintenance	18.35
Road reconstruction	
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	Up to 64 months
Implementation Period:	October 2022 – March 2027

The lands involved in this proposed project are held in trust by the State of Montana. (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA).

The DNRC would manage lands involved in this project in accordance with:

- The State Forest Land Management Plan (DNRC 1996),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- The Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP) (DNRC 2010) and all other applicable state and federal laws.

Project Development

SCOPING:

- DATE:
 - The initial project was scoped in 2004 and an EAC written in 2006. A decision was made to re-scope the project in January 2022.
- PUBLIC SCOPED:
 - The scoping notice was posted on the DNRC Website:
<http://dnrc.mt.gov/publicinterest/public-notice>
 - Adjacent landowners, Statewide scoping list, Powell County Commissioners
- AGENCIES SCOPED:
 - Montana FWP, Tribes on the Statewide scoping list
- COMMENTS RECEIVED:
 - How many: No external comments were received
 - Concerns: No immediate concerns were brought forth

DNRC specialists were consulted, including: SWLO Hydrologist, Andrea Stanley; SWLO Biologist, Garrett Schairer; DNRC Silviculturist, Tim Spoelma; DNRC Fisheries Biologist, Mike Anderson. Other DNRC Forest Management Staff.

Internal and external issues and concerns were incorporated into project planning and design and will be implemented in associated contracts.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS

NEEDED: *(Conservation Easements, Army Corps of Engineers, road use permits, etc.)*

- **United States Fish & Wildlife Service-** DNRC is managing the habitats of threatened and endangered species on this project by implementing the Montana DNRC Forested Trust Lands HCP and the associated Incidental Take Permit that was issued by the United States Fish & Wildlife Service (USFWS) in February of 2012 under Section 10 of the Endangered Species Act. The HCP identifies specific conservation strategies for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. This project complies with the HCP. The HCP can be found at <http://dnrc.mt.gov/divisions/trust/forestmanagement/hcp>.
- **Montana Department of Environmental Quality (DEQ)-** DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.
- **Montana/Idaho Airshed Group-** The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho

Airshed Group 2010). As a member, DNRC must submit a list of planned burns to the Airshed Group's Smoke Monitoring Unit describing the type of burn to be conducted, the size of the burn in acres, the estimated fuel loading in tons/acre, and the location and elevation of each burn site. The Smoke Monitoring Unit provides timely restriction messages by airshed. DNRC is required to abide by those restrictions and burn only when granted approval by the Smoke Monitoring Unit when forecasted conditions are conducive to good smoke dispersion.

- **Montana Department of Fish, Wildlife and Parks (DFWP)-** A Stream Protection Act Permit (124 Permit) is required from DFWP for activities that may affect the natural shape and form of a stream's channel, banks, or tributaries. Such activities include:
 - A 124 Permit has been applied for and received for the proposed stream crossings associated with new road constructions.

ALTERNATIVES CONSIDERED:

No-Action Alternative:

This alternative would not implement any of the timber management activities proposed in this document. It would not exclude future timber harvesting activities.

Alternative A, the no action alternative, would retain all current tree cover. Continued tree growth, with declining individual tree radial growth and vigor would be expected. Seral species such as Ponderosa pine and aspen would continue to be reduced as Douglas-fir canopy cover increased. An increasing chance of a stand replacing wildfire, with subsequent loss of revenue to the school trust and additional environmental impacts could also occur as ladder fuel loads increase. Impacts from insect and disease outbreaks would also be expected to continue.

No new roads would be built, and existing substandard roads and drainage features would not receive remedial measures to decrease sediment delivery to watercourses.

Existing management activities (grazing leases) would continue. Timber harvest revenues to the school trust associated with the no-action alternative would not be realized at this time.

Action Alternative:

Alternative B, the action alternative, would selectively treat approximately 1,186 acres. Approximately 7.8 miles of new road construction would be required to access the proposed treatment areas. All new roads would be closed with gates or partially obliterated upon completion of project activities.

Harvesting would typically target the smaller diameter intermediate and co-dominant trees with some larger, less healthy trees also designated for cutting. Historically, the sites likely contained a higher proportion of Ponderosa pine than they do currently and, due to absence of fire, Douglas-fir makes up an un-naturally high proportion of the stand. Existing Ponderosa pine are typically in poor shape and are being out-competed by Douglas-fir. Retention of most large diameter pine and some fir would provide variable stand structure, snag recruitment and move the sites closer to historic conditions. Maintenance, restoration and regeneration of Ponderosa pine, where it occurs, would be a goal of this alternative.

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

VEGETATION:

Forested cover dominates the sections with 1,545 acres of forest cover and 135 acres of nonforested grassland. 1,442 acres is Douglas-fir cover type and 103 acres is Lodgepole pine cover type. The proposed treatments would be a mix of seed tree, shelterwood, commercial thin, overstory removal and old growth maintenance.

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1404 2201 2202	Moderately warm and dry (westside)	Low-tomixed	Douglas Fir	150-199	Douglas Fir	Seed Tree	252
1601 1401	Moderately warm and dry (westside)	Low-tomixed	Douglas Fir	150-199	Douglas Fir	Overstory Removal	159
1402 1602 1603	Moderately warm and dry (westside)	Low-tomixed	Douglas Fir	100-149	Douglas Fir	Seed Tree	457 *
1403	Moderately warm and dry (westside)	Low-tomixed	Douglas Fir	100-149	Douglas Fir	Shelterwood Harvest	49
Line Units	Moderately warm and dry (westside)	Low-tomixed	Douglas Fir	100-149	Douglas Fir	Seed Tree	269

* Seed tree was the predominant prescription within the units. However, these units have enough variability within where some acres would be commercially thinned and some areas would be treated with shelterwood harvest.

Insect and Disease:

Mountain Pine Beetle has mostly run its course killing most susceptible Lodgepole pine and some Ponderosa pine. An increase in Douglas-fir Bark Beetle has been observed throughout the larger older Douglas-fir trees. Western Spruce Budworm continues to defoliate and impact trees across all units.

Old Growth:

Stand level inventory (SLI) shows 188 acres of Douglas-fir cover type and 20 acres of

Lodgepole pine meets the Department's old growth criteria. The Lodgepole pine cover type has experienced significant mortality from Mountain Pine Beetle within the last 10 years and no longer has sufficient live trees to meet criteria. Field surveys within the Douglas-fir cover type show enough large live trees currently exist within the Douglas-fir cover type to meet criteria. However, the Douglas-fir Bark Beetle is killing many of the large, old live Douglas-fir. The proposed treatment would leave as many of the large live Douglas-fir trees that contribute to the criteria. Under the proposed treatment, the stands may still have enough large live trees to meet the Department's criteria and some stands may fall below the threshold and become recruitment stands. Under the no action alternative, the old growth Douglas-fir stands will likely fail to meet the Department's old growth criteria if the Douglas-fir Bark Beetle continues to kill trees at the rate observed.

Sensitive/Rare Plants: No sensitive or rare plants have been identified or are known to occur within the proposed project area.

Noxious Weeds:

Noxious weeds are present throughout the sections and along the roadways. Noxious weeds consist of Spotted knapweed, Thistle and Houndstongue. An integrated approach to weed management would be implemented. Herbicide and bio-control would be implemented where practical.

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Current Cover/DFCs	X				X				X					
Age Class	X				X				X					
Old Growth			X			X					X		Yes	
Fire/Fuels		X				X				X				
Insects/Disease		X				X				X				
Rare Plants	X				X				X					
Noxious Weeds			X			X					X			
Action														
Current Cover/DFCs		X				X				X				
Age Class		X				X				X				
Old Growth			X				X				X			1.
Fire/Fuels		X				X				X				
Insects/Disease		X				X				X				
Rare Plants		X				X				X				
Noxious Weeds			X				X				X			2.

Comments:

1. See old growth description above in existing conditions.

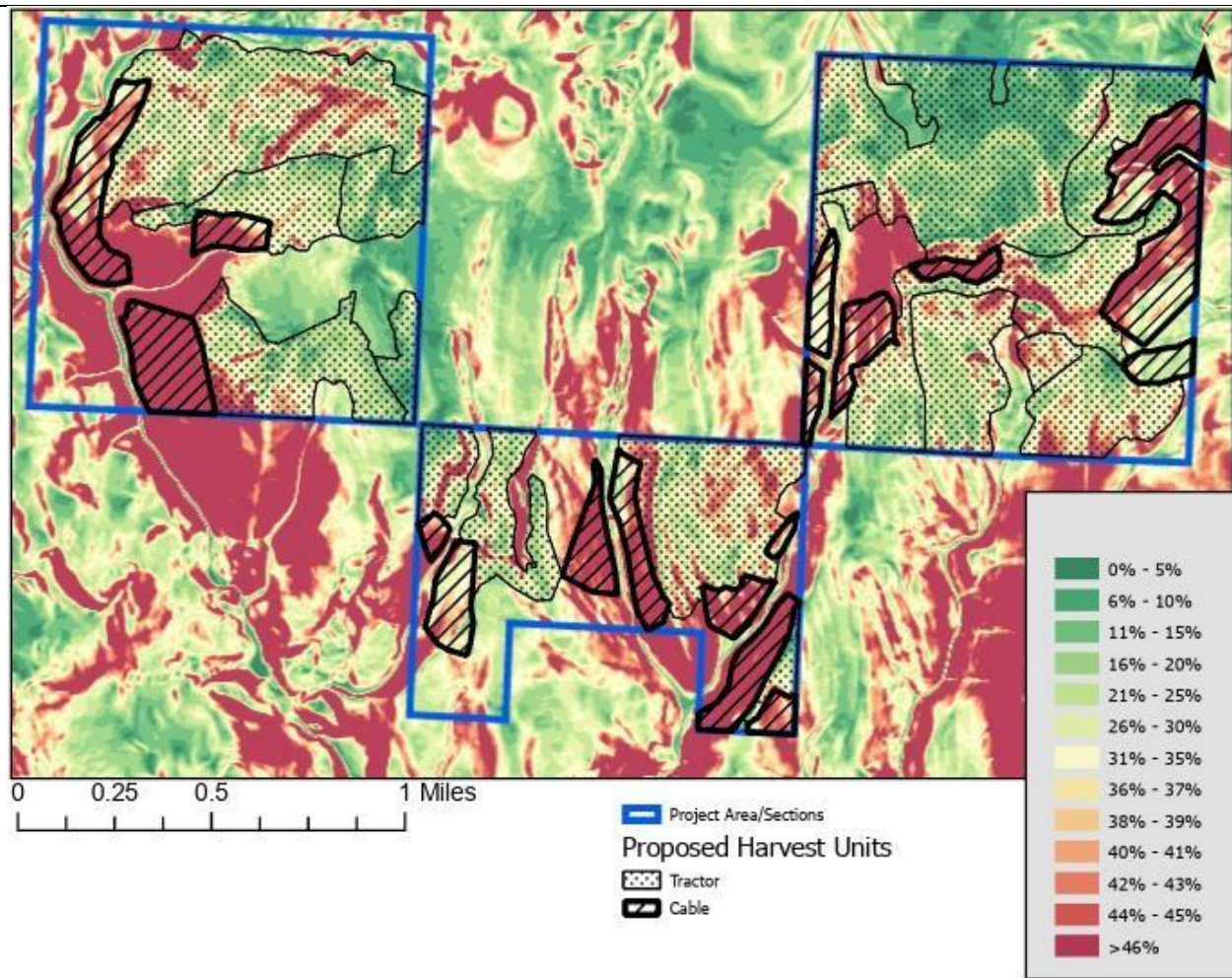
2. Under the action alternative, increased disturbance in the project area, as well as a more open canopy, could lead to an increased spread of noxious weeds. DNRC would complete herbicide treatments of spot infestations on the state project parcel and segments of the access roads on adjacent ownerships to control existing and new weeds. All off road equipment would be washed and inspected prior to start of work. All new roads would be reseeded to site adapted grass to reduce the threat of noxious weed spread. Project areas would be monitored for noxious weeds after implementation and herbicide may be applied when and if needed. The grazing licensee would be responsible for noxious weed management several years post-harvest in accordance with site specific noxious weed management plans.

SOIL DISTURBANCE AND PRODUCTIVITY:

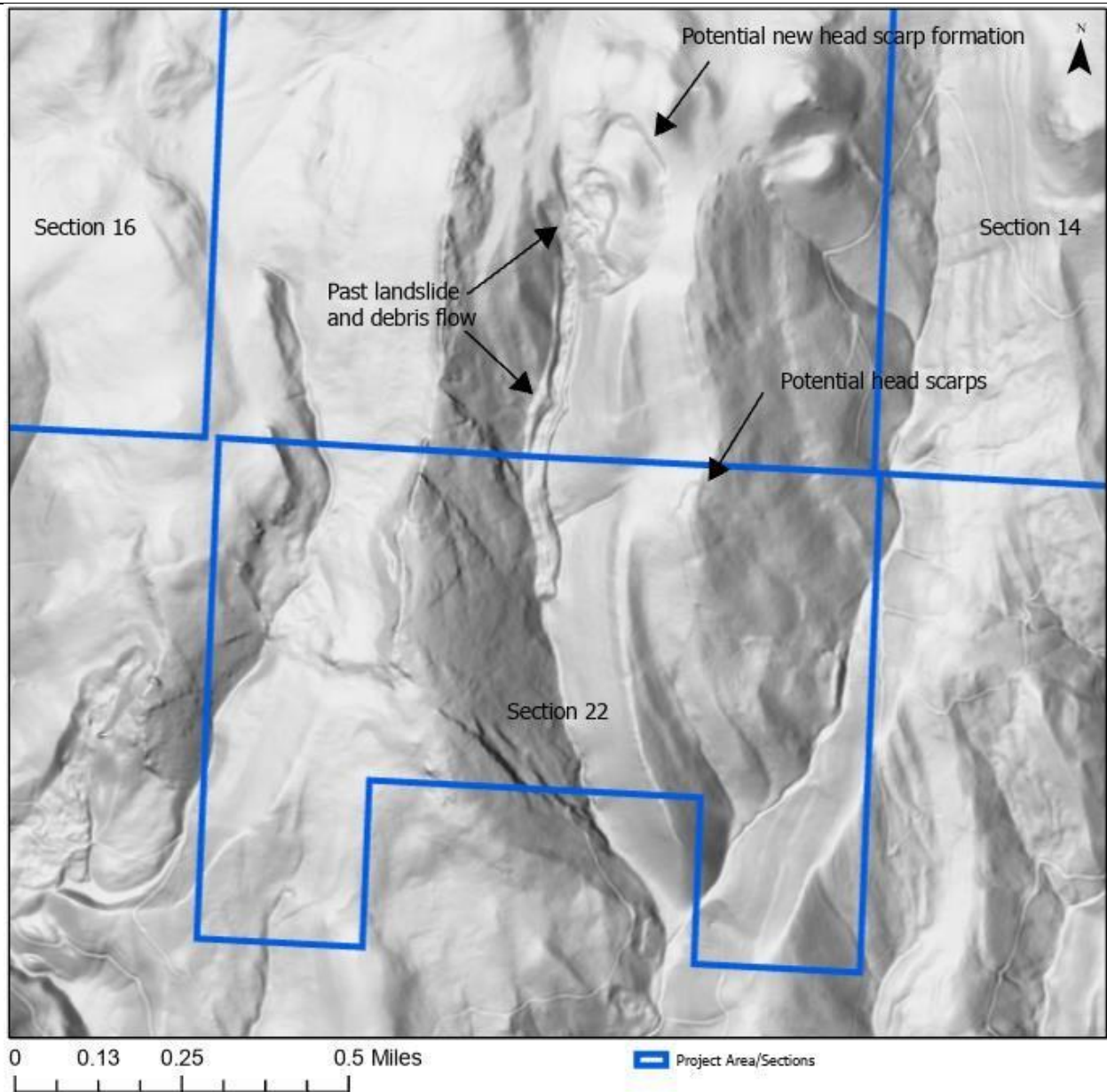
Soil Disturbance and Productivity Existing Conditions:

The project area is located within the three sections listed below and located in the Garnet Range mostly within the Hoover Creek watershed. Underlying geology is diverse across the project area and includes Paleozoic and Mesozoic sedimentary rocks (limestone, quartzite, shale, sandstone, chert) and Tertiary volcanic rocks (andesite and rhyolite) mostly in the northern portion of Section 14, and in the northern and eastern edges of section 16 (Brooks and Sears, 2009). Proposed new road construction includes all the above-described rock types.

Slopes within the proposed harvest areas vary with some exceeding 45%. Harvest units on slopes typically averaging greater than 45% are proposed for cable harvesting. Some slopes greater than 45% may be found within tractor units and may be harvested if operations can be done without excessive ground disturbance. Slopes calculated from lidar confirm that the proposed unit boundaries and yarding methods will avoid ground-based yarding on slopes greater than 45% (see map below).



Slope stability, particularly in Section 22, appears to have been unstable historically. Head scarps, and past debris flows are visible in recent Lidar data (see below). What appears to be potentially head scarps are visible in the NE corner of Section 22 (see below). These occur on a slope proposed for road construction.



Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Physical Disturbance (Compaction and Displacement)	X				X				X				NA	1
Erosion	X				X				X				NA	1
Nutrient Cycling	X				X				X				NA	1
Slope Stability	X				X				X				NA	1

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Soil Productivity	X				X				X				NA	1
Action														
Physical Disturbance (Compaction and Displacement)		X				X				X			Y	2, 3, 4, 5
Erosion		X				X				X			Y	2, 3, 5
Nutrient Cycling		X				X				X			Y	4, 5, 6, 7
Slope Stability			X			X				X			N	8
Soil Productivity		X				X				X			Y	4, 5, 6, 7

Comments:

1. Implementation of the No-Action Alternative would result in no new soil resource impacts in the project area. Soil resource conditions would remain similar to those currently at the site.
2. Soil and vegetation disturbance from harvest activities may result in temporary increased risk of erosion.
3. Soil disturbance and erosion risk increases with slope and slopes in project area exceed 45% in some places.
4. Direct impacts by physical disturbance would likely occur by ground-based yarding. All expected impacts are expected to be less than 12.2% and would be minimized by use of existing roads and skid trails. This disturbance rate estimate is based off previous soil disturbance monitoring of timber sales completed by the DNRC (DNRC, 2011).
5. Several miles of new road construction is proposed in the project areas.
6. Applicable state plans, rules, and practices have guided project planning and would be implemented during project activities, including the Montana Code Annotated (specifically Title 77, Chapter 5), the Administrative Rules of Montana (specifically Rule Chapter 36.11), the Montana Forest Best Management Practices, and the State Forest Land Management Plan.
7. According to Graham et al. (1994), a minimum of 5 tons/acre of CWD would be a desired post-harvest condition to maintain forest productivity for this forest habitat type.
8. The project could have a moderate risk to slope stability.

Soil Mitigations:

- BMP's would be implemented on all roads and within the units. Some slash would be left in the units to mitigate erosion risks – including along skid trails.
- Ground-based logging equipment (tractors, skidders, and mechanical harvesters) would be limited to slopes less than 45% unless not causing excessive disturbance.

- The Contractor and Sale Administrator should agree to a general skidding plan prior to equipment operations. Skid trails would be mitigated following harvesting and yarding operations with water bars and/or slash.
- To prevent soil compaction ground-based mechanical felling and yarding would be restricted to one or more of the following conditions:
 - Soil moisture content at 4-inch depth less than 20% oven-dry weight. ○
Minimum frost depth of 4 inches.
 - Minimum snow depth of 18 inches of loose snow or 12 inches packed snow.
- A target minimum of 5 tons/acre and preferably 9 tons/acre, of coarse and fine woody debris would be maintained on site to meet the concentration for the DF/PHMA habitat type recommended by Graham et al (1994).

Soil References:

Brooks, J.A., and Sears, J.W., 2009, Geologic map of the Bailey Mountain and Griffin Creek 7.5 ' quadrangles, Montana: Montana Bureau of Mines and Geology EDMAP portion of the National Geologic Mapping Program 1, 2 sheets, scale 1:24,000.

DNRC, 2011. DNRC compiled soils monitoring report on timber harvest projects, 2006-2010, 1st Edition. Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, MT.

Graham, R.T., Harvey, A.E., Jorgensen, M.F., Jain, T.B., and Page-Dumrose, D.S., 1994, Managing Course Woody Debris in Forests of the Rocky Mountains. U.S., Forest Service Research Paper INT-RP-477. Intermountain Research Station. 16p.

WATER QUALITY AND QUANTITY:

Water Quality and Quantity Existing Conditions:

The project and associated existing and proposed roads are located in the Hoover Creek watershed, which is tributary to the Clark Fork. The surface connection of Hoover Creek appears to only occur during periods of high runoff (MFWP, 2009).

Hoover Creek is below the proposed harvest areas and is adjacent to approximately 7 miles of the proposed main haul route connecting the harvest areas with the nearest county road and highway. Hoover Creek has been classified as B-1 by the state according to its present and future beneficial uses it is expected to support (§ 75-5-301, MCA). Below is a description of the designated uses for B-1 streams per Montana Department of Environmental Quality (DEQ):

Waters classified B-1 are to be maintained suitable for drinking, culinary and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.
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Hoover Creek is listed as impaired per the Clean Water Act for not fully supporting its beneficial uses due to impairments including elevated total phosphorous and total nitrogen, sedimentation/siltation, turbidity, flow regime modification, and physical substrate habitat alterations. The sources of these impairments identified by the DEQ include grazing in riparian zones, road runoff, streambank modifications/destabilization, agriculture, and dam construction.

In-stream impoundments along Hoover Creek include Miller Lake and additional structures downstream of Miller Lake. Observations of the creek from the open road between Highway 90 to Miller Creek include evidence of significant modification to the stream by instream impoundments and cattle grazing. Approximately 86% of the Hoover Creek watershed is privately owned, 9% is state-owned (project areas), and the remaining 5% is federally-owned.

Hoover Creek is documented to carry fish and is therefore classified as Class 1. No harvest is proposed near Hoover Creek.

The following are descriptions of the existing conditions of tributaries to Hoover Creek above Miller Lake:

- **Elk Swamp Creek:** Is mostly intermittent and does not have a surface connection to other surface waters below Section 16 and therefore could be classified as Class 2. The proposed haul route is on an existing road that is poorly located and runs adjacent to the creek. The road is in poor condition and the buffer between the road and the stream is minimal. There is currently direct sediment delivery occurring at several locations along the road. The road is located behind a locked gate that the DNRC shares with adjacent private landowners. Cattle grazing has caused some vegetation removal, bank sloughing, and trampling. Historic timber harvest has occurred in the project area and adjacent private ground. Evidence of recent timber harvest adjacent to the creek were not observed.
- **Deer Creek:** Is tributary to Elk Swamp Creek and is classified as Class 2 mostly due to connection downstream with Elk Swamp Creek and intermittent flows. Although in some areas the channel is discontinuous through wetland areas. The proposed haul route is on an existing road that is poorly located and runs adjacent to the creek.
- **Kelley Creek:** Is mostly an intermittent stream. Areas of low streamflow (less than 1 CFS in August) occur along reaches that are spring/seep fed. This creek is classified as Class 2 mostly due to the connection downstream with Elk Swamp Creek. The creek is observed to be mainly in good condition with some pressure from cattle grazing. The channel is vegetated with riparian shrubs and appear to be stable.
- **Tributaries to Hoover Creek above Miller Lake:** Steep stream channels with low perennial flow (less than 1 CFS). Channels are well shaded and appear to be in good condition.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Water Quality		X				X			X				NA	1
Water Quantity	X				X				X				NA	1
	Impact												Can Impact Be	

Water Quality & Quantity	Direct				Secondary				Cumulative				Mitigated?	Comment Number
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Action														
Water Quality		X				X				X			Y	2, 3, 4
Water Quantity		X				X				X			Y	2, 3

Comments:

1. With no action, no timber harvesting or related activities would occur. Water quality conditions would likely continue under its current condition. Similarly, no risk of change of current fluctuations in annual water yield or stream flow would result. As is mentioned in the existing water quality conditions, much of the roads that are located adjacent to streams would remain in their current condition. Proposed project activities include making permanent and temporary improvements that would benefit water quality – including adding armoring and maintaining/improving road drainage.
2. Applicable state plans, rules, practices, and commitments have guided project planning and would be implemented during project activities, including the Montana Code Annotated (specifically Title 77, Chapter 5), the Administrative Rules of Montana (specifically Rule Chapter 36.11), the Montana Forest Best Management Practices, the DNRC Habitat Conservation Plan (2010), and the State Forest Land Management Plan.
3. Changes to stream flow hydrology (water quantity or water flow) may be detectible with the Action Alternative along smaller tributaries to Hoover Creek. However, change in streamflow is not expected within Hoover Creek. The proposed project includes harvest areas that would affect less than 9% of the watershed of Hoover Creek. Studies correlating vegetation harvest and treatment with streamflow yield have suggested approximately 15-20% of the watershed **vegetation** must be harvested to have a measurable increase in water yield in similar mountain environments (Stednick, 1996; and Bosch and Hewlett, 1982). Therefore, streamflow change is not expected to be observable in Hoover Creek. The potential change in streamflow to the smaller tributaries is not expected to result in a significant risk to water and riparian resources.
4. The proposed project includes three new stream crossings:
 - a. An ephemeral section of Kelley Creek
 - b. A perennial section of an unnamed tributary to Kelley Creek
 - c. An ephemeral section of an unnamed tributary to Elk Swamp Creek. Effects to water quality will be minimized by timing with seasonal low or no-flow conditions, limiting disturbance, and revegetating with grass seed. Design and measures to minimize impacts are listed in the 124 Permit issued by Montana FWP for the project.

Water Quality & Quantity Mitigations:

- Replace rock armoring at stream crossings and road drainage structures where rock armoring has failed or been scoured.
- Upgrade road drainage as needed to restore BMPs.
- Improve and maintain sediment control BMPs such as silt fence at locations of point delivery from road drainage to streams.

- Adhere to applicable equipment limitations and vegetation retention requirements adjacent to streams.

References:

Montana Fish Wildlife and Parks (MFWP). An Assessment of Fish Populations and Riparian Habitat in Tributaries of the Upper Clark Fork River Basin (Phase II). March, 2009

FISHERIES:

Fisheries Existing Conditions:

All streams within the three project sections are assumed to not have fish. This assumption is based on the following observations:

Deer and Elk Swamp Creeks: Insufficient streamflow (mostly intermittent) or connected perennial habitat capable of supporting fish.

Kelley Creek: Low streamflow (less than 1 CFS in August) and insufficient overwintering pool habitat. No fish observed during spot electrofishing completed in several small pools in August 2022.

Unnamed Section 14 Tributary to Hoover Creek: Low streamflow (less than 0.5 CFS in August), insufficient overwintering pool habitat, and stream gradient.

Unnamed Tributary west of Hoover Creek: Low streamflow, insufficient overwintering pool habitat, and stream gradient.

Hoover Creek is below the proposed harvest areas and Montana Fish Wildlife and Parks (FWP) have documented populations of Westslope Cutthroat Trout, Rainbow Trout, Brook Trout, Longnose Sucker within the creek (MFISH queried 2022). The creek has been significantly modified by instream impoundments and grazing (see water quality discussion earlier in this EA).

No-Action and Action Alternative:

No foreseeable direct, indirect, or cumulative effects to fisheries resources are anticipated with an action or No-Action Alternative due to the absence of fish. Efforts, including required riparian setbacks stipulated in SMZ law and rules, would be taken to protect the riparian areas for aquatic values.

Fisheries Mitigations:

No additional project-specific mitigations necessary beyond the project design and commitments listed earlier in this analysis and the water resources analysis.

WILDLIFE:

Evaluation of the impacts of the No-Action and Action Alternatives including **direct, indirect, and cumulative** effects on Wildlife.

Wildlife Existing Conditions:

The project area contains a mixture of forested Douglas-fir and to a lesser degree lodgepole pine stands (roughly 1,545 acres) intermixed with some non-forested habitats (approximately 143 acres). Generally, the habitats in the project area are forested, but numerous non-forested areas exist across the project area; similarly, across the cumulative effects analysis area habitats are a mix of forested areas along with more open grassland/shrublands habitats. Habitats on private ownerships surrounding the project area have experienced timber management in the recent past as well as agricultural activities, both of which have seemingly influenced wildlife patterns in the area. Collectively, connectivity attributes in the project area and cumulative effects analysis area are somewhat limited due to the intermingling of forested habitats with more open types. Roughly 209 acres of old stands exist in the project area (see vegetation section for more details). Mortality in many of these old stand habitats have occurred in the recent past and mortality agents continue to affect these stands; ongoing and past mortality in these old stands is reducing and/or has reduced habitats for the suite of wildlife requiring old stand attributes. Individual grizzly bears could occasionally use the project area while dispersing or possibly foraging. The project area contains approximately 121 acres of potential Canada lynx habitat, which is a combination of winter foraging (65 acres), other suitable (36 acres), and summer foraging habitats (20 acres). Ongoing mortality in lynx habitats is improving structural habitats at the ground level, but at the expense of canopy closure. These lynx habitats are disconnected and exist in a matrix of non-suitable habitats. Potential habitat exists for flammulated owls (1,373 acres) and pileated woodpeckers (760 acres) in the project area. Big game summer habitat exists in the project area but no big game winter range exists in the project area. Elk hiding cover exist in the project area, and the project area could contribute to elk security habitats, but the restricted roads that access the project area and surrounding area are managed by neighboring landowners who also permit outfitting in the vicinity, which likely limits the effectiveness of these habitats as elk security habitats. A red-tailed hawk and a territorial northern goshawk were documented in the project area during field visits and use of the project area by both species could occur.

No-Action:

No potential for disturbance to wildlife would be anticipated. No timber management activities would be conducted, thus no appreciable changes to existing habitats would occur. No appreciable changes to landscape connectivity, availability of forested patches, or old stands would occur. Continued maturation within existing stands could improve pileated woodpecker foraging habitats and big game summer range attributes but could reduce habitat quality for flammulated owls over the long term. Little effects on limited Canada lynx habitats would be anticipated given habitats in the project area are rather disconnected and exist in a matrix of non-suitable habitats. Furthermore, ongoing mortality in lynx habitats is improving structural habitats at the ground level, but at the expense of canopy closure. Generally, negligible direct, indirect, or cumulative effects to threatened, endangered, or sensitive terrestrial and avian wildlife species and big game species would be anticipated.

Action Alternative:

Approximately 1,117 acres (72% of the forested habitats in the project area) of existing mature Douglas-fir and lodgepole pine stands would be harvested. In general, habitats for those

species adapted to more-open forest conditions would increase in the project area, meanwhile habitats for wildlife species that prefer dense, mature Douglas-fir stands created by fire exclusion would be reduced in the project area. Reductions in connectivity of forested habitats would occur, but a portion of these habitats are at the interface between forested habitats and open grass/shrub habitats, limiting the effects to connectivity at the landscape level. Proposed activities would revert much of the existing stands in the project area to a younger stand age, which would more closely resemble portions of the surrounding landscape. Proposed treatments on up to 209 acres of old growth stands would open existing stands but would maintain old growth characteristics unless ongoing mortality has already dropped these stands below thresholds for old stands. Habitats in these old stands would be more open and some species would see a reduction in available habitats, while other species that use old stands could continue to use those resulting habitats. Generally, a reduction in habitats for those wildlife species that use old stands would occur. No changes in legal motorized public access would occur in the project area. Contract stipulations would minimize the presence of human-related attractants for the duration of the proposed activities. Disturbance associated with proposed activities could occur but would be of short duration and disturbance levels would be expected to revert to levels similar to the existing conditions following proposed activities.

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Threatened and Endangered Species														
Grizzly bear (Ursus arctos) Habitat: Recovery areas, security from human activity		X				X				X			Y	1
Canada lynx (Felix lynx) Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone		X				X				X			Y	2
Yellow-Billed Cuckoo (Coccyzus americanus) Habitat: Deciduous forest stands of 25 acres or more with dense understories and in Montana these areas are generally found in large river bottoms	X				X				X					3
Sensitive Species														

Bald eagle (<i>Haliaeetus leucocephalus</i>) Habitat: Latesuccessional forest within 1 mile of open water	X				X				X							3
Black-backed woodpecker	X				X				X							3

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
(<i>Picoides arcticus</i>) Habitat: Mature to old burned or beetle-infested forest														
Common loon (<i>Gavia immer</i>) Habitat: Cold mountain lakes, nest in emergent vegetation	X				X				X					3
Fisher (<i>Martes pennanti</i>) Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian		X				X				X				4
Flammulated owl (<i>Otus flammeolus</i>) Habitat: Latesuccessional ponderosa pine and Douglas-fir forest		X				X				X			Y	5
Fringed myotis (<i>Myotis thysanodes</i>) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines		X				X				X			Y	6

Hoary bat (<i>Lasiurus cinereus</i>) Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges		X				X				X			Y	7
Peregrine falcon (<i>Falco peregrinus</i>) Habitat: Cliff features near open foraging areas and/or wetlands	X				X				X					3
Pileated woodpecker		X				X				X			Y	8
Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
(<i>Dryocopus pileatus</i>) Habitat: Latesuccessional ponderosa pine and larch-fir forest														
Townsend's bigeared bat (<i>Plecotus townsendii</i>) Habitat: Caves, caverns, old mines	X				X				X					3
Wolverine (<i>Gulo gulo</i>) Habitat: Alpine tundra and highelevation boreal forests that maintain deep persistent snow into late spring	X				X				X					3
Other Species														
Red-tailed hawk (<i>Buteo jamaicensis</i>) Habitat: Open habitats, including agricultural, grasslands, woodlands, and meadows		X				X				X			Y	9

Northern Goshawk (<i>Accipiter gentilis</i>) Habitat: Coniferous forests with high canopy closure and relatively open understory		X				X				X			Y	10
Big Game Species														
Elk		X				X				X			Y	11
Whitetail		X				X				X			Y	11
Mule Deer		X				X				X			Y	11
Bighorn Sheep	X				X				X					3
Other														

Comments:

W-1 The project area is 18 miles south of the Northern Continental Divide Ecosystem grizzly bear recovery area and is in 'occupied' grizzly bear habitat as mapped by grizzly bear researchers and managers to address increased sightings and encounters of grizzly bears in habitats outside of recovery zones (Wittinger et al. 2002). Individual grizzly bears likely use the project area throughout the non-denning period, and they could be displaced by project-related disturbance if they are in the area during proposed activities. Presently there are about 8.6 miles of roads in the project area that are largely controlled by adjacent landowners. There are about 1,028 acres of potential grizzly bear hiding cover in the project area. Within the cumulative effects analysis area, extensive open habitats (~41%), including grasslands, agriculture fields, sagebrush, and recently harvested stands exist and relatively limited forested habitats (35%) that may be providing grizzly bear hiding cover. Extensive private ownership (~93%) exists in the vicinity with considerable uncontrolled roads that limit grizzly bear security habitats. Proposed activities would construct roughly 3.2 miles of new permanent roads and another 3.1 miles of temporary road in the project area. New roads would persist on the landscape; overall open and total road densities would increase in a landscape where road densities are relatively high and grizzly bear use would likely be depressed, in part, due to open road densities. Approximately 750 acres (73%) of potential grizzly bear hiding cover would be largely removed with the proposed activities. To reduce the potential avoidance of harvest units and provide some security, proposed seed tree harvest units would be laid out to ensure that no point of the unit exceeds 600 feet to vegetative cover or topographic break. Should a grizzly bear be in the vicinity during proposed activities, potential for disturbance could occur, but this would only occur during proposed activities, which would be a relatively short period (2-4 years) of time. Activities would likely avoid the spring period, minimizing potential disturbance and displacement from important habitats during the sensitive spring period. Overall negligible changes in human-bear interactions would be anticipated. Mitigations to minimize potential for introducing attractants to bears would be applied, which would further reduce the potential for human/bear interactions. Proposed habitat modification

would be additive to the effects associated with past timber harvesting in the cumulative effects analysis area as well as any ongoing harvesting.

W-2 The project area contains approximately 121 acres of potential Canada lynx habitat, which is a combination of other suitable (36 acres), winter foraging habitats (65 acres), and summer foraging habitats (20 acres). Canada lynx habitats in the project area are disconnected and exist in a matrix of non-suitable habitats. Ongoing mortality in lynx habitats is improving structural habitats at the ground level, but at the expense of canopy closure. Similarly, the cumulative effects analysis area has considerable non-suitable habitats intermixed with some forested habitats that may contain some very limited suitable habitats for Canada lynx. Connectivity between potentially suitable habitats in the vicinity is limited due to the high percentage of unsuitable and open habitats in the vicinity. Generally, little or no use of the project area and cumulative effects analysis area by Canada lynx would be anticipated. Proposed activities would occur on approximately 55 acres of winter foraging habitats (85%), 18 acres of summer foraging habitats (90%), and 10 acres of other suitable habitats (50%). Stands proposed for treatment would be expected to drop below the 40% canopy closure threshold that differentiates between suitable and temporary non-suitable habitats due to anticipated retention levels, harvesting corridors, skid trails, damage to sub-merchantable trees, landings, and low original stand density. The remaining patches of potential lynx habitats (approximately 39 acres) would not likely be usable by lynx due to their scattered and disconnected nature in a matrix of non-suitable lynx habitats. The retention of patches of advanced regeneration of shade-tolerant trees in foraging habitats would break-up sight distances, provide horizontal cover, and provide forest structural attributes preferred by snowshoe hares and lynx. Coarse woody debris would be retained (emphasizing retention of some logs 15 inches dbh and larger) to provide some horizontal cover and security structure for lynx. The areas proposed for harvest in lynx habitats could regenerate and have sufficient growth to provide cover and forage for potential prey species within 10-15 years, but would continue to exist in a matrix of unsuitable habitats, thus extensive use would not be anticipated. Proposed activities would not appreciably alter forested connectivity in the vicinity given the matrix of habitats in the vicinity. Proposed habitat modification would be additive to the effects associated with past timber harvesting in the cumulative-effects analysis area as well as any ongoing harvesting. Proposed activities would reduce the amount of habitats on DNRC-managed lands administered by the Southwestern Land Office under the HCP and outside of the Lynx Management Areas that are in suitable lynx habitat categories from 85.7% to 85.5%.

W-3 The project area is either out of the range of the normal distribution for this species or suitable habitat is not present. Thus, no direct, indirect, or cumulative effects would be anticipated.

W-4 Roughly 26 acres of potential upland fisher habitats and 4.6 acres of riparian fisher habitats exist in the project area. Generally, habitats in the project area and the cumulative effects analysis area are somewhat disconnected and of low quality. Human disturbance, developments, and timber management in the vicinity have likely limited fisher use of the project area. Proposed activities could introduce more, short-duration disturbance in the upland habitats. Alterations to 26 acres of potential upland habitats would occur, but activities would avoid the riparian habitats (4.6 acres) commonly used by fisher. Proposed treatments in upland habitats would reduce canopy closure and

resultant stands would likely be too open to be used by fisher. No changes in open roads would be anticipated; trapping pressure and the potential for fisher mortality would not change. Reductions in upland habitats would further reduce the amount of suitable upland fisher habitats in the cumulative effects analysis area.

- W-5 There are approximately 1,373 acres of potential flammulated owl habitats in dry Douglas-fir and ponderosa pine stands in the project area. Similarly, the cumulative effects analysis area is largely suitable for flammulated owls. Portions of the cumulative effects analysis area have been harvested in the recent past, potentially improving flammulated owl habitat by creating foraging areas and reversing a portion of the Douglas-fir encroachment and opening up stands of ponderosa pine; however, retention of large ponderosa pine and/or Douglas-fir was not necessarily a consideration in some of these harvest units, thereby minimizing the benefits to flammulated owls. Flammulated owls can be tolerant of human disturbance (McCallum 1994), however the elevated disturbance levels associated with proposed activities could negatively affect flammulated owls should activities occur when flammulated owls are present. Proposed activities could overlap the nestling and fledgling period. Since some snags would be retained, loss of nest trees would be expected to be minimal. Proposed activities on 984 acres (72%) of potential flammulated owl habitats would open the canopy while favoring Douglas-fir and ponderosa pine. The more open stand conditions and the maintenance of snags would move the project area toward historical conditions, which is preferred flammulated owl habitat.
- W-6 Fringed myotis are year-round residents of Montana that use a variety of habitats, including deserts, shrublands, sagebrush-grasslands, and forested habitats. They overwinter in caves, mines, crevices, or human structures. Fringed myotis forage near the ground or near vegetation. No known caves, mines, crevices, or other structures used for roosting occur in the project area or immediate vicinity. Fringed myotis have not been documented in the vicinity of the project area, but the Garnet Range has suitable habitats and some smaller rock outcrops exist in the project area. Proposed activities could disturb fringed myotis should they be in the area. Changes in vegetation structural attributes could change overall prey availability, but considerable foraging habitats would persist in the project and cumulative effects analysis areas. Overall, no appreciable changes to fringed myotis use of the project area or cumulative effects analysis areas would be anticipated.
- W-7 Hoary bats are summer residents (June-September) across a variety of forested habitats in Montana. Hoary bats frequently forage over water sources near forested habitats. Hoary bats are generally thought to roost alone in, primarily in trees, but will use also use caves, other nests, and human structures. Some use by hoary bats would be possible, but water sources in the project area that could be suitable foraging habitats are somewhat limited. Individual trees and snags in the existing forested habitats could be used for roosting. No known caves or other structures used for roosting occur in the project area or immediate vicinity. Hoary bats have not been documented in the vicinity of the project area, but the Garnet Range has suitable habitats and some smaller rock outcrops exist in the project area. Proposed activities could disturb hoary bats should they be in the area. Loss of potential roosting habitats could occur, but considerable amounts of trees would persist in the project and cumulative effects analysis areas. No changes in foraging habitats would be anticipated. Overall, no appreciable changes to

hoary bat use of the project area or cumulative effects analysis areas would be anticipated.

- W-8 Roughly 760 acres of potential pileated woodpecker habitat and another 306 acres of potential foraging habitats exist in the project area, with most being Douglas-fir stands, which pileated woodpeckers may use for foraging habitats but generally don't use for nesting. Thus, extensive use of the project area by pileated woodpeckers would not be expected. Within the cumulative effects analysis area, considerable open habitats, young-forested stands, and stands of Douglas-fir exist, that likely limits use of the cumulative effects analysis area by pileated woodpeckers. Disturbance to pileated woodpeckers could occur if proposed activities occur during the nesting period. Proposed harvesting would reduce forested habitats for pileated woodpeckers in the project area. Roughly 530 acres (70%) of potential habitat and 147 acres of potential foraging habitats (48%) would be too open to be used by pileated woodpeckers following proposed treatments. Proposed timber management activities would reduce stand density on 1,196 acres. Elements of the forest structure important for nesting pileated woodpeckers, including snags, coarse woody debris, numerous leave trees, and snag recruits would be retained in the proposed harvest areas. Since pileated woodpecker density is positively correlated with the amount of dead and/or dying wood in a stand (McClelland 1979), pileated woodpecker densities in the project area would be expected to be reduced on 1,196 acres. Reductions to pileated woodpecker associated with this alternative would be additive to the effects of past timber management as well as any ongoing harvesting across the cumulative effects analysis area.
- W-9 At least one red-tailed hawk was detected in the northeast portion of section 14 on multiple times during the latter portion of the nesting season and it was not possible to determine if red-tailed hawks were nesting in the project area. Much of the project area and surrounding landscape is potentially suitable red-tailed hawk habitats. Some disturbance to red-tailed hawks could occur if activities were conducted during the nesting season should red-tailed hawks be nesting in the project area or adjacent area; red-tailed hawks are sensitive to human disturbance during the breeding season and are known to change their home ranges to accommodate the disturbance (Andersen et al. 1990). Proposed activities within ¼ mile of any known red-tailed hawk nest would not occur between April 1 and August 1 unless the nest is documented to be unoccupied. This would limit potential disturbance to nesting goshawks in the vicinity. Proposed timber management on 1,196 acres would open the canopy while favoring ponderosa pine and Douglas-fir, which could improve red-tailed hawk foraging habitats in the project area. Should a nest be identified in the project area, additional mitigations would be incorporated that could include a combination of timing and retention mitigations.
- W-10 A northern goshawk was documented in northeast portion of section 16 during the latter portion of the nesting season and it was not possible to determine if northern goshawks were nesting in the project area. Re-use of old nests by goshawks occurs relatively infrequently, but fidelity to the nest area is fairly high (Woodbridge and Deitrich 1994, Patla 1997), thus the area could be used again and this site or another in the vicinity could again be occupied by goshawks. Proposed activities within ¼ mile of a known goshawk nest would not occur between April 1 and August 1 unless the nest is documented to be unoccupied. This would limit potential disturbance to nesting goshawks in the vicinity. The stand in the vicinity of the observations is largely comprised of Douglas-fir; retention of additional Douglas-fir trees in the vicinity of any identified nest would occur, which could facilitate some future use by nesting goshawks.

Proposed timber management on 1,196 acres would open the canopy while favoring Douglas-fir and ponderosa pine, which could reduce quality of the area for nesting, but could introduce additional stand structure variation for foraging. The resultant stands in the area would be more open, contain fewer large trees, fewer snags, more coarse woody debris, fewer areas of dense mid-aged forest, but would perpetuate some small openings for additional prey species; overall a reduction in prey availability would be anticipated, but use by goshawks for foraging could persist. An increase in potential nest predation would be possible with the increasingly openness in the canopy. A decrease in future occupancy of the nest site by goshawks would be likely following proposed treatments (Patla 2005).

W-11 The project area contains suitable summer habitat for white-tailed deer, mule deer, and elk. No big game winter range exists in the project area. Proposed activities could occur in the winter or non-winter periods; activities in the winter would not be expected to disturb wintering big game, but disturbance from mechanized logging equipment and trucks could temporarily displace big game animals non-winter operations when considerable other suitable habitats exist in the vicinity, which would minimize the effects to big game species. No long-term effect to summer ranges would be anticipated. Proposed activities would not prevent big game movement through the project area appreciably and could stimulate browse production in the proposed units. Approximately 1,028 acres of potential big game hiding cover exists in the project area that looks to contribute to big game security habitat in the vicinity. No changes in open roads would occur with the proposed activities. Overall decreases in hiding cover would be anticipated, but no changes in available security habitats in the project or cumulative effects analysis areas due to the habitats present, topography, existing land ownership patterns, and the locations of existing roads.

Wildlife Mitigations:

- A DNRC biologist will be consulted if a threatened or endangered species is encountered to determine if additional mitigations that are consistent with the administrative rules for managing threatened and endangered species (ARM 36.11.428 through 36.11.435) are needed.
- Should a raptor nest be identified in or near project activities, activities will cease and a DNRC biologist will be contacted. Site-specific measures will be developed and implemented to protect the nest and birds prior to re-starting activities.
- Motorized public access will be restricted at all times on restricted roads that are opened for harvesting activities; signs will be used during active periods and a physical closure (gate, barriers, equipment, etc.) will be used during inactive periods (nights, weekends, etc.). These roads and skid trails would be reclosed to reduce the potential for unauthorized motor vehicle use.
- Snags, snag recruits, and coarse woody debris will be managed according to ARM 36.11.411 through 36.11.414, particularly favoring ponderosa pine. Clumps of existing snags could be maintained where they exist to offset areas without sufficient snags. Coarse woody debris retention would emphasize retention of downed logs of 15-inch diameter or larger.
- Contractors and purchasers conducting contract operations will be prohibited from carrying firearms while on duty.
- Food, garbage, and other attractants will be stored in a bear-resistant manner.

- Provide visual screening for grizzly bears by designing new seed tree units such that no point in the unit is more than 600 feet from vegetation or topographic break.
- Retention of patches of advanced regeneration of shade-tolerant trees would break-up sight distances, provide horizontal cover, and provide forest structural attributes preferred by snowshoe hares and lynx.
- Minimize potential disturbance to nesting northern goshawks and/or red-tailed hawks by not permitting harvesting activities within ¼ mile of any known nest that is actively being used between April 1 and August 1. Retain the majority of the trees within 200 feet of the nest site to maintain some of the attributes that are likely making it suitable for nesting.

Wildlife References:

- Andersen, D. E., O. J. Rongstad, and W. R. Mytton. 1990. Home-range changes in raptors exposed to increased human activity levels in southeastern Colorado. *Wildlife Society Bulletin* 18:134-142.
- McCallum, D. A. 1994. Review of technical knowledge: flammulated owls. Pages 14-46 in G. D. Hayward and J. Verner, tech eds. *Flammulated, boreal, and great gray owls in the United States: a technical conservation assessment*. USDA Forest Service Gen. Tech. Rep. RM-253. Fort Collins, Colorado.
- McClelland, B.R. 1979. The pileated woodpecker in forests of the Northern Rocky Mountains. Pages 283-299 in *Role of insectivorous birds in forest ecosystems*. Academic Press.
- Patla, S.M. 1997. Nesting ecology and habitat of the northern goshawk in undisturbed and timber harvest areas on the Targhee National Forest, Greater Yellowstone ecosystem. M.S. Thesis, Idaho State University, Pocatello, ID.
- Patla, S. M. 2005. Monitoring results of northern goshawk nesting areas in the Greater Yellowstone Ecosystem: is decline in occupancy related to habitat change? *J. Raptor Res.* 39:324-334.
- Wittinger, W.T. 2002. Grizzly bear distribution outside of recovery zones. Unpublished memorandum on file at USDA Forest Service, Region 1. Missoula, Montana. 2pp.
- Woodbridge, B., and P. J. Detrich. 1994. Territory occupancy and habitat patch size of Northern Goshawks in the southern Cascades of California. *Studies in Avian Biol.* 16: 83-87.

AIR QUALITY:

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Smoke	X				X				X					
Dust	X				X				X					
Action														
Smoke		X				X				X				
Dust		X				X				X				

Comments: Burning would be completed in accordance to the rules of the Montana Idaho Smoke Management Coordination Group.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Historical or Archaeological Sites	X				X				X					
Aesthetics	X				X				X					
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					
Action														
Historical or Archaeological Sites		X				X				X				
Aesthetics	X				X				X					
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					

Comments:

1. The tribes were scoped, but no response was received. DNRC archaeologist, Patrick Rennie conducted a Class III cultural and paleontological resources inventory of the Area of Potential Effect (APE). As such, the proposed timber sale will have *No Effect* to *Antiquities* as defined under the Montana State Antiquities Act. A formal report of findings has been prepared and is on file with the DNRC and the Montana State Historic Preservation Officer.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: *List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.*

- None known

Impacts on the Human Population

Evaluation of the impacts on the proposed action including **direct, secondary, and cumulative** impacts on the Human Population.

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety	X				X				X					
Industrial, Commercial and Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment	X				X				X					
Local Tax Base and Tax Revenues	X				X				X					
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities	X				X				X					
Density and Distribution of population and housing	X				X				X					
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					
Action														
Health and Human Safety	X				X				X					
Industrial, Commercial and Agricultural Activities and Production	X				X				X					1

Quantity and Distribution of Employment		X				X				X				2
Local Tax Base and Tax Revenues	X				X				X					
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities	X				X				X					
Density and Distribution of population and housing	X				X				X					
Social Structures and Mores	X				X				X					
Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Cultural Uniqueness and Diversity	X				X				X					

Comments:

1. The parcels are currently leased for grazing. That use would remain unchanged with either alternative.
2. The action alternative would provide employment for one logging company throughout the duration of the project.

Locally Adopted Environmental Plans and Goals: *List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.*

- None

Other Appropriate Social and Economic Circumstances:

Costs, revenues and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

No Action: The No Action alternative would not generate any return to the trust at this time.

Action: The timber harvest would generate additional revenue for the Common School Trust. The estimated return to the trust for the proposed harvest is approximately \$500,000 based on an estimated harvest of 4,000 MBF (28,000 tons) and an overall stumpage value of \$17.85 per

ton. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

References

DNRC 1996. State forest land management plan: final environmental impact statement (and appendixes). Montana Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, Montana.

DNRC. 2010. Montana Department of Natural Resources and Conservation Forested State Trust Lands Habitat Conservation Plan: Final EIS, Volume II, Forest Management Bureau, Missoula, Montana.

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?

No known risks or adverse effects have been identified.

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?

No known risks or adverse effects have been identified.

Environmental Assessment Checklist Prepared By:

Name: Brian Robbins

Title: Unit Manager

Date: 10/17/2022

Finding

Alternative Selected

The EA Checklist has analyzed and disclosed the potential environmental impacts of two alternatives:

1. Proposed Action
2. No Action

I have decided to approve the Proposed Action with all mitigations and controls recommended in the EA Checklist and is hereby adopted. My decision is based on a thorough review of the environmental assessment and the following conclusions arrived at through that review:

- 1) I conclude that the proposed action will achieve the project objectives of a) mitigating adverse insect and disease impacts and restoring the forest to its income generating potential and b) capturing timber values at imminent risk of loss.

- 2) I further conclude that, by virtue of design, mitigations and controls adopted and integrated into the proposed action, the project objectives will be achieved in a manner that avoids significant adverse impacts to the human and physical environment.

I am also satisfied that the proposed action has been developed through an appropriate process involving public participation, interdisciplinary methods and inter-entity consultations; that it reflects understandings, conclusions and agreements arrived at through such collaborative work; and that it is true and faithful to the trust land mission provided by the Montana Constitution and forestry laws of the State of Montana, as well as principles laid out in the State Forest Land Management Plan and Rule under which policy the trust land forestry mission is pursued.

Significance of Potential Impacts

I am satisfied that all pertinent resources and environmental values have been properly identified and studied through the project development process. Based on my review of the environmental analysis, I have concluded that the proposed action will not cause any significant adverse impacts - direct, secondary or cumulative - on the human and physical environment.

With respect to the significance of potential impacts, I find there are none that should be regarded as severe, enduring, geographically widespread or frequent.

Further, I find that the quantity and quality of the various resources, including any that may be considered unique or fragile, will not be adversely affected to a significant degree and that the seven criteria for determining significance of impacts contained in ARM 26.2.644 have been addressed completely. I find in the proposed action no precedent for future actions that would cause significant impacts and I find no conflict with local, state or federal laws, requirements or formal plans. In summary, I find that some adverse impacts are avoided altogether by means of project design and that others are controlled and mitigated to the extent that they do not become significant.

Need for Further Environmental Analysis

☐

EIS

☐

More Detailed EA

☒

No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Jon M. Hayes

Title: SWLO Forest Management Program Manager

Date: October 18, 2022

Signature: /Jon M. Hayes/

Attachment A - Maps

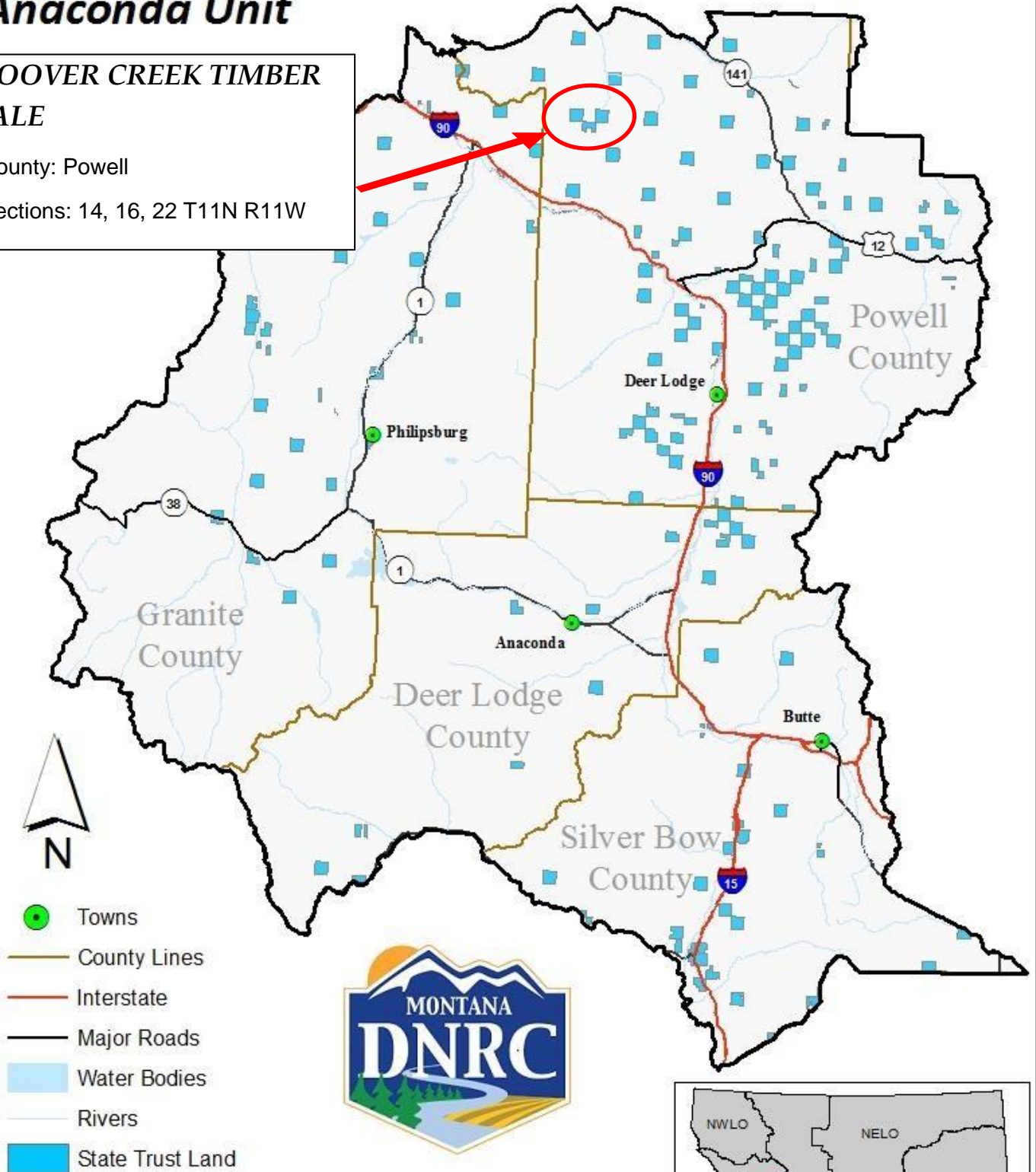
State Trust Land Vicinity Map

Anaconda Unit

HOOVER CREEK TIMBER SALE

County: Powell

Sections: 14, 16, 22 T11N R11W



A-2: Timber Sale Harvest Units

